DOCUMENT MODIFICATION REQUEST (DMR) Page Refer to 1-A01-PPG-001 for Processing Mistractions 1 Date DMR No 95-DMR-ERM-0162 May 30 1995 Print or Type All Information (Except Signatures) sting Document Number/Revision New Document Number or Document Number if it is to be changed with this 10 WP OU 05 1/Rev 1/2 O Sub Revision N/A Originator s Name/Phone/Page/Location 5 Document Title FINAL PHASE I RFI/RI WORK PLAN FOR OPERABLE UNIT Mark R Wood/8784/5904/080-641 5 WOMAN CREEK PRIORITY DRAINAGE Volume III Text to Technical Memorandum No 15 Amended Field Sampling Plan 6 Document Type Procedure 7 Document Modification Type (Check only one) X Other Work Plan □ New □ Revision □ Intent Change x Nonintent Change □ Editorial Correction □ Cancellation 9 Page 10 Step 11 Proposed Modifications 3 10 3123 First paragraph third work element revise as follows 3) obtain up to two groundwater samples through the second quarter of calendar year 1995 from any location that is in adjacent to or downgradient of the landfill if water level measurements indicate the presence of a sufficient quantity of water 2 3 11B 3123 Second paragraph first sentence delete three deep and replace with six ADMIN RECORD 3 11B 3123 3 Second paragraph second sentence delete one year and replace with six months 3123 3 11B Fourth paragraph first and second sentences revise as follows Groundwater samples shall be obtained from any well piezometer well point or mini well that is in adjacent to or downgradient of the Original Landfill (existing or new) if water level measurements indicate the presence of a sufficient quantity of water These samples will be collected quarterly for six months 3 11C 3 1 2 3 First paragraph third sentence delete or a minimum of one rinsate sample per day of sampling to maintain consistency with 95 DMR ERM-0151 3 of 4 Table Insert revised Table 3 1 2 1 Summary of Amended Field Sampling Plan IHSS 115 (Original Landfill) and IHSS 196 (Filter Backwash Pond) and 4 3121 Page 3 of 4 delete one year and replace with two quarters for the column heading. Sampling Frequency for the groundwater sampling of 9 piezometers of 4 under Geotechnical Investigation Page 4 of 4 add for two quarters for the column heading Sampling Frequency for the following activities Install and sample mini-wells (cont) Sample existing well points and Characterize bedrock LHSU and install monitoring wells under Groundwater Investigation 1 of 1 Table Insert revised Table 3 2 2 1 Summary of Amended Field Sampling Plan IHSS 133 (Ash Pits Incinerator and Concrete-wash Pad) 3221 Add for two quarters for the column heading Sampling Frequency for the activity Sample piezometers under Groundwater Investigation 12 Justification (Reason for Modification EJO# TP# etc.) d Technical Memorandum No 15 Field Sampling Plan to reflect the cessation of groundwater sample collection after the second quarter of calendar year 1995 This cessation is due to bility to incorporate the third or fourth quarter analytical data from calendar year 1995 into the draft or final RFI/RI report for OU5 The DOE-RFFO counterpart Kurt Muenchow ve vally concurs with the scope of this Document Modification Request If modification is for a new procedure or a revision list concurring disciplines in Block 13 and enter N/A in Blocks 14 and 15. If modification is for any type of change or a cancellation, organizations are listed in Block 13 then Concurror prints and signs in Block 14 and dates in Block 15 13 Organization 14 Print and Sign (if applicable) 15 Date (if applicable) KUNCLL FRANCHIK OUS FS Team OUS PM EQS LUKER 16 Originator's Supervisor (print/sign/ BICHER 19 Charge Number 98647900 21 Effective Date 20 Requested Completion Date 18 Cost Center 3120 June 2 1995 Mark R Wood/8784/5904/080-641 June 2 1995

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23 ORC Review Not Required

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DATE NA

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22 Accelerated Review?

Yes D No x

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3 1 2 3 Groundwater Investigation

In order to more completely evaluate the presence and quality of groundwater at and downgradient of the Original Landfill, additional groundwater samples need to be collected and analyzed. Since the presence and quantity of groundwater appears to be limited, this task shall consist of three work elements.

- 1) install and develop up to 9 piezometers, 5 mini-wells, and 6 bedrock (LHSU) monitoring wells (Figure 3 1 2 2-1),
- measure water levels in all well points, mini-wells, piezometers, and monitoring wells that are along or north of Woman Creek, south of the south Buffer-Zone access road, east of the western edge of IHSS 115 (approximately CPT07393), and west of the eastern edge of IHSS 115 (approximately CPT05393) on a monthly basis for one year, and
 - obtain up to two groundwater samples, through the second quarter of calendar year 1995, from any location that is in, adjacent to, or downgradient of the landfill if water measurements indicate the presence of a sufficient quantity of water

The purpose of installing the nine piezometers and five mini-wells is to further characterize the present or absence of groundwater. The nine piezometers to be installed will be constructed in the geotechnical boreholes (see Section 3 1 2 2) where groundwater is encountered. The five proposed mini-well locations are placed in 1) bedrock lows that were identified during the CPT investigation (but water was not detected), and 2) between existing well points. Of the five mini-wells to be installed, four shall be installed downgradient of IHSS 115 and one shall be installed on the upper level part of the eastern end of IHSS 115 in the vicinity of borehole. This latter location will be used for only water level input for the hydrogeologic model and not sampling. These mini-wells will be installed using a small all-terrain vehicle rig which does not produce soil cuttings. Composite soil samples will be collected during drilling in accordance with the procedures outlined in TM7 (EG&G, 1993e). In addition, discrete samples

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from the unweathered bedrock will be handled in accordance with SOP FO 23, Management of Soil and Sediment Investigative Derived Materials (IDM), for removel to the landfill

Development The bedrock wells will be sampled on a quarterly basis for OU5 target analytes [Table 3 1 2-1) for six months in accordance with GW 6, Groundwater Sampling If sufficient groundwater is encountered, the deep bedrock monitoring wells may have aquifer tests performed, either slug (GW 4) or pumping (GW 8) tests Water levels will be collected monthly for one year after development

Water levels will be measured in all the monitoring wells, well points, and piezometers located along or north of Woman Creek, south of West Road, east of the western Buffer-Zone boundary road, and west of First Street. This includes the piezometers along Woman Creek as discussed in a subsequent paragraph. Water level measurements will continue monthly for a year. This will characterize the magnitude of seasonal fluctuations and provide the hydrogeologic model an average level.

Groundwater samples shall be obtained from any well, piezometer, well point, or mini-well that is in, adjacent to, or down gradient of the Original Landfill (existing or new) if water level measurements indicate the presence of a sufficient quantity of water These samples will be collected quarterly for six months

Groundwater samples will be collected in the priority listed on Table 3 1 2 3-1 Information from these work elements will be used for the evaluation of nature and extent, as well as input for the hydrogeologic model

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Field QC samples will be collected for both soil and groundwater samples. Duplicate samples will be collected with the frequency of one duplicate sample per 10 real samples. Rinsate samples will be collected with the frequency of one rinsate sample per 20 real samples.

Because groundwater sampling equipment is dedicated, the instrument probes used to measure field parameters will be rinsed to obtain the groundwater rinsate samples. One VOC trip blank will be prepared and will accompany each groundwater sampling crew per cooler per day.

Table 3 1 2-1 Summary of Amended Field Sampling Plan HISS 115 (Original Landfill) and HISS 196 (Filter Backwash Pond) Page 3 of 4

	20 ON				
ACTIVITY	SAMPI ING I OCATIONS	FREQUENCY	ANAI YTICAI PARAMFTFR9	FIFLD QUALITY CONTROL SAMPLES/PROCRAM	APPLICABLE SECTION OF
Evaluate Subaurface Bermetry/Beolechnical properties (cont.)	7	Soil samples of shear zone/weathered bedrock	Selected samples	8 ICU (ASTM 19467 88) 2 Consolidation (ASTM 1)2435 90) 10 Atterberg Limits (ASTM 1)4318 93) 5 Gradaton (ASTM 1)140 92	3122
		Soil samples of unweathered bedrock	Selected samples	3 Drained Direct Shear (ASTM D3080 90)	
	9 prezometers (11SA borehole advanced as	monthly quarteriu for Two	water level	replicate measurements as specified in SOP GW 01	
	decused on preceding page)	quarters	A Metale and Radionuclides	I dup/10 samples, i rinsaic/20 samples or minimum of i rinsaic/day and associated trip blank	
Waste and core characterization	20 IISA borehotes and 6 deep bedrock monitoring wells	I drum composite per 4 drums (approx 1 drum per 10 (t of borehole)	TCI VOCA, SVOCA, Pest & IVTR TAL. Metals, and Radionuclides	f dup/10 samples, f rinsate/20 samples or minimum of 1 rinsate/day and associated trp blank	
Back calculate Iterugth parameters and calculate long term stability by method of slices	¥	٧٧	×	NA	
Install and sample mini wells	5	2 foot discrete soil	Tcl Voca	I dup/10 samples, 1 rinsate/20 samples or minimum of 1	3123
		6 fool composite soil samples or alternative composites as specified in 1M7	SVOCs, Pesticides & PClis 1A1 Metals and Radionuclides	rinsate/day and I trip blank per field crew per day per cnoler	

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Table 3 1 2-1 Summary of Amended Field Sampling Plan IIISS 115 (Original Landfill) and IIISS 196 (Filter Backwash Pond) Page 4 of 4

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Table 3 2 2-1 Summary of Amended Field Sampling Plan IHSS 133 (Ash Pits, Incinerator, and Concrete-wash Pad)
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			rage 1 01 1			
EVALUATION	АСПИПУ	NO OF SAMPLING LOCATIONS	SAMPI ING FREQUENCY	ANALYTICAL Parameters	FIELD QUALITY CONTROL SAMPLES/PROGRAM	APPLICABI E SECTION OF TEXT
Investigation of TDEM Anomatics	Comprehensive field inspection	NA	NA	NA	٧N	3221
	Soil boreholes	•	6 foot composite samples or alternative composites as specified in TM7	TAI metals and radomuclides	1 duplicate/10 samples and 1 rinsate/20 samples or minum of 1 misate/day	
	Collection of geotechnical samples	DBL	10 percent of total number of composite samples	grain size distribution (+200 fraction)	NA	
	Collection of groundwater samples from soil borcholes	TBD (Mocation with water)	2000	TAL metals and radionuclides	I duplicate/10 samples (none anticipated) and 1 misate/20 samples or minimum of 1 misate/day	
C.roundwater Investigation	Advance soil borchotes and install prezometers (mini wells)	6	every thard sampler (approx 6 feet)	natural motsture content	NA	3222
	Measure water levels	TBD	монту	water level	replicate measurements as specified in SOP GW 01	
wa 3 - 21 w 1 -	Sample prezometers	TBD	Quarterly for Two Quarters	TAL metals, SVOCs, and radionuclides	I duplicate/10 samples (none anticipated) and rinsates at the rate of 1 misste/20 samples or maintiment of 1 misste/day for wells and prezoneters or 1 misste/20 samples for minimals and well pourts (miss probes)	
1	Visual survey of Woman Crock stream channel	NA	NA	NA	NA	
	Aquifer tests	1	cnce	NA	NA	
Air Monitoring	RAAMP Monitoring	Monttoring will be conduc	Monttoring will be conducted as specified in RAAMP documentation	documentation		32.23
	Special OUS Ambient Air Samplers	3	bs weekly samples composited monthly	Radiomiclides	As specified in SOP AP 13	
	Wind Resuspension	ТВО	1BD	TBD	18D	
NA = Not Applicable	TBD = To Be Determined	rmined				

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